

CLAIM AMENDMENTS

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1-18. (Previously cancelled)

19. (Currently Amended) A positioning apparatus, comprising: for transferring at least one electronic component from

a first flat support;

a second flat support which extends parallel to the first flat support,

wherein the apparatus is configured for transferring at least one electronic component from the first flat support to at least one predetermined bond location on the second flat support,

a camera device configured for detecting position data of the at least one predetermined bond location and of the at least one electronic components to be removed from the first flat support; and

an ejection device for removing the at least one electronic component from the first flat support by an ejection movement,

wherein the camera device, a flat support element of the apparatus the first flat support, the second flat support, the camera device, the first flat support, and the ejection device, and a flat support element of the apparatus; in this order, are arranged along a common straight line, and

wherein the first flat support element is optically transparent, and

wherein at least a portion of the second flat support is optically transparent to allow the camera device to make optical contact with both the at least one electronic component to be removed and the at least one predetermined bond position.

20. (Previously Presented) The apparatus according to claim 19, wherein the first flat support is connected to a first positioning device for positioning the first flat support relative to the common straight line,

wherein the second flat support is connected to a second positioning device for positioning the second flat support relative to the common straight line, and wherein the second flat support is moved in its support plane at a displacement speed which is calculated from:

a distance between a plurality of electronic components to be successively removed from the first flat support;

a displacement speed of the first flat support; and

position data of the optically transparent portion of the second flat support through which the camera devices detects position data during displacement of the second support.

21. (Previously Presented) The apparatus according to claim 20, wherein the first and second positioning devices perform rotation of the first and second flat supports, respectively, about a rotation axis perpendicular to the support planes of the first and second flat supports.

22. (Previously Presented) The apparatus according to claim 21, further comprising: a third positioning device connected the ejection device for positioning the ejection device with respect to the common straight line by displacing the ejection device in a direction parallel to the first and second flat supports.

23. (Previously Presented) The apparatus according to claim 19, wherein the second flat support includes a strip-shaped substrate.

24. (Previously Presented) The apparatus according to claim 23, wherein the strip-shaped substrate includes an optically transparent material.

25. (Previously Presented) The apparatus according to claim 23, wherein the strip-shaped substrate includes a partially perforated material.

26. (Previously Presented) The apparatus according to claim 23, wherein the second flat support includes additional components when the at least one electronic component is transferred thereto.

27. (Previously Presented) The apparatus according to claim 26, wherein the strip-shaped substrate of the second flat support includes bond contacts for bonding the at least one electronic component at the predetermined bond location on the strip-shaped substrate.

28. (Previously Presented) The apparatus according to claim 19, wherein the second flat support comprises individual substrate elements, which are spaced apart from one another.

29. (Previously Presented) The apparatus according to claim 19, wherein the camera device is arranged below the second support along the common straight line, wherein the common straight line extends through the camera device in a vertical direction.

30. (Previously Presented) The apparatus according to claim 29, wherein the flat support element is arranged between the camera device and the second flat support for supporting the optically transparent portion of the second flat support.

31. (Previously Presented) The apparatus according to claim 30, wherein the flat support element is displaceable along the vertical axis.

32. (Previously Presented) The apparatus according to claim 19, wherein the camera device comprises an evaluation device for evaluating and comparing the detected position data.

33. (Previously Presented) The apparatus according to claim 32, further comprising a control device for controlling the positioning devices based on a comparison of position data.

34. (Previously Presented) A positioning method for transferring at least one electronic component from a first flat support in a first support plane to at least one predetermined bond

location on a second flat support having a second support plane which extends parallel to the first support, at least a portion of the second flat support including optically transparent material, comprising:

displacing the second flat support along its support plane below the first flat support;

detecting position data of the at least one electronic components arranged on the first flat support using a camera device arranged below the second flat support during displacement of the second flat support;

positioning the at least one predetermined bond location on the second flat support above the camera device;

detecting position data of the predetermined bond location using the camera device;

aligning the first flat support with the second flat support using a positioning device by displacement thereof with respect to one another within the respective support planes, such that the camera device, the predetermined bond location on the second flat support, the at least one electronic component arranged on the first flat support and an ejection device lie on an imaginary common straight line; and

moving the second flat support in the second support plane at a displacement speed which is calculated from the distance between a plurality of electronic components to be removed successively from the first flat support, a displacement speed of the first flat support, and the detected position data of the optically transparent region of the second flat support, through which the camera device detects position data during displacement of the second support.

35. (Cancelled.)

36. (Previously Presented) The apparatus according to claim 2, wherein the first and second positioning devices perform displacement of the first and second flat supports, respectively, in their respective support planes.

37. (Previously Presented) The positioning method according to claim 34, wherein the second flat support comprises a substrate, and

wherein displacing the substrate during detecting the position data of the at least one electronic component and the at least one predetermined bond location further comprises:

in a first step, displacing the substrate from a first predetermined bond location to a second predetermined bond location;

in a second step, preventing the camera device from making optical contact with a first electronic component;

in a third step, displacing a wafer disposed on the first flat support with respect to the camera device such that position data of a second electronic component can be detected by the camera;

in a fourth step, detecting the position data of the second electronic component;

in a fifth step, displacing the second electronic component to correct a position of the second electronic component, if necessary;

in a sixth step, detecting the position data of the second predetermined bond position;

in a seventh step, if necessary, displacing at least one of the substrate and the second electronic component such that the second predetermined bond contact position and the second electronic component are mutually aligned on the imaginary common straight line; and

in an eighth step, bonding the second electronic component to the second predetermined bond location.

38. (Previously Presented) The positioning method according to claim 34,

wherein the positioning device comprises first and second positioning devices, and

wherein the first flat support is moved by the first positioning device and the second flat support is moved by the second positioning device to position the first flat support and the second flat support relative to the common straight line.